

related condition per 100,000 population continued to increase, from 25.8 in 1978 to 26.6 in 1980.

Table 10 (and Table 8 for 1979) shows combinations of conditions mentioned on the death certificate, without regard to the underlying cause. As in Table 9, the bottom row shows the total number of deaths with mention of a condition. These totals are also in the diagonal of the table, and the upper right-hand portion of the table is a mirror image of the bottom left-hand portion. Conditions may be counted more than once here: for example, if condition A, B, and C were mentioned on a death certificate, A would be counted in both of the combinations AB and AC, though only once for that certificate in the total.

One way to analyze the data in Table 10 is to compare the number of actual combinations of two conditions to the number that would be expected if associations occurred randomly. For example, the expected number of combinations of hypertension and diabetes is the proportion of total deaths with a mention of diabetes times the number of deaths with hypertension mentioned. This is, from Table 9, $(3598/48426) \times 4285 = 318$. In other words, we expect the proportion of hypertension deaths with diabetes mentioned to be the same as the proportion of total deaths with diabetes mentioned. The actual number of combinations, from Table 10, is 776, which results in a ratio of actual to be expected of 2.44. This is statistically significant with a probability of less than .001 based on the chi-square test. We can say that hypertension and diabetes are associated illnesses that appear together much more frequently than would be expected by chance alone.

Table 11 shows combinations of diseases that are highly associated, based on this method. Lung cancer and chronic obstructive lung disease also appear in combination much more frequently than would be expected by chance alone (not shown in Table 11). The high ratio of actual to expected for combinations of alcohol and non-motor-vehicle accidents is due in part to counting code E860 (accidental poisoning by alcohol) as both an accident and alcohol-related condition. Likewise, codes 571.0-571.3 are counted as chronic liver disease/cirrhosis and as an alcohol-related condition. All combinations of heart disease, hypertension, and atherosclerosis and combinations of cerebrovascular disease with hypertension and